REMARKS

The Final Office action dated June 2, 2010 is acknowledged. Claims 1, 2, 4-14 and 16-18 are pending in the instant application. Claims 1, 2, 4, 5 and 16 have been rejected and claims 6-14, 17 and 18 have been withdrawn. By the present Final Office Action response, claim 1 has been amended to more precisely define the linkage by which the antibodies (enabling cell-specific attachment) are coupled to the surface of the nanoparticles, support for which may be found throughout the present specification such as Figure 1, paragraphs [00002], [000014], [000015] and [000031] and present claims 1, 7 and 17. Specifically, claim 1 has been amended to recite that the antibodies are biotinylated antibodies and that the biotin moiety is required for coupling with avidin, which itself is bound to the nanoparticle surface via a bifunctional spacer. The spacer molecules are bound to reactive groups which are present on the nanoparticle surface and which were created by treating functional groups (i.e., amino groups, carboxyl groups, hydroxyl groups) located on the surface of the nanoparticles with suitable reagents. Reconsideration is respectfully requested in light of the amendments and arguments made herein. No new matter has been added.

Rejection of claims 1, 2, 4, 5 and 16 under 35 U.S.C. 102(b)

Claims 1, 2, 4, 5 and 16 have been rejected under 35 U.S.C. 102(b) as being anticipated by WO 02089776 (Kreuter, et al.). The Examiner argues at pages 3-4 in the Final Office action that Kreuter, et al. teach every limitation recited in the present claims. In particular, the Examiner states that Kreuter, et al. teach nanoparticles comprising proteins, e.g., gelatin and human serum albumin coupled with antibodies. The Examiner also states that Kreuter, et al. teach imparting pharmacologic effects, pharmacologically

or biologically active substances are incorporated in the nanoparticles, or they are bound by the nanoparticles, where the binding of the active agents may be performed covalently with complex-formation via the avidin-biotin system, as well as incorporatively or adsorptively. The Examiner additionally states that the Kreuter, et al. reference teaches that amino groups, carboxyl groups and hydroxyl groups located on the surface of the nanoparticles can be converted by suitable reagents to reactive thiol groups, where functional proteins are bound to the thiol group-modified nanoparticles via bifunctional spacer molecules having reactivity both to amino groups and free thiol groups. The Examiner further states that the reference teaches the functional proteins to be coupled to the nanoparticles are selected from the group comprising avidin, avidin derivatives, apolipoproteins such as apolipoprotein E and also antibodies. Lastly, the Examiner states that the nanoparticles of the Kreuter, et al. reference meet the structural limitations of the present claims and that the nanoparticles comprising gelatin or human serum albumin coupled with antibodies and a pharmacological agent of Kreuter, et al. and the nanoparticles of the presently claimed invention are not structurally distinguishable. Therefore, the Examiner concludes that, in the absence of evidence to the contrary, the nanoparticles of Kreuter, et al. would inherently provide cell-specific, intracellular enrichment of at least one pharmaceutically active substance and that a composition and its properties are inseparable. Thus, the Examiner concludes that Kreuter, et al. teach every limitation of the present claims and anticipates the presently claimed invention.

The Applicants respectfully disagree with the Examiner's conclusion and submit that the present invention as defined in the present claims as amended is patentably distinct from the invention disclosed in the prior art Kreuter, et al. reference. Claim 1, as

discussed above, more precisely defines the linkage by which the antibodies are coupled to the surface of the nanoparticles. Kreuter, et al. teach nanoparticles having apolipoprotein E coupled via the avidin-biotin system. Avidin serves as a "functional protein" which is coupled to the nanoparticles via bifunctional spacer molecules (paragraphs [0007], [0011]). It also appears that Kreuter, et al. teach that antibodies may be used as functional proteins (paragraph [0012]). When read in combination with paragraph [0011] of Kreuter, et al., the teachings imply that the antibodies are coupled to the bifunctional spacer molecules instead of avidin. Both avidin and antibodies are recited in paragraph [0012] of Kreuter, et al. as alternative examples of "functional proteins."

However, the Applicants submit that Kreuter, et al. fail to teach nanoparticles having biotinylated antibodies bound to avidin moieties which are coupled to the nanoparticle surface via bifunctional spacer molecules. It is pointed out that Kreuter, et al. teach the antibodies to be coupled directly to the bifunctional spacer (paragraphs [0011], [0012] of Kreuter, et al.). Kreuter, et al. do not teach using biotinylated antibodies.

In view of the above, it is submitted that the Kreuter, et al. reference fails to teach each and every limitation of the present claims and therefore fails to anticipate the presently claimed invention as recited in the pending claims. Withdrawal of this rejection is respectfully requested.

Conclusion

For the foregoing reasons, it is believed that the present application, as amended, is in condition for allowance, and such action is earnestly solicited. Based on the

foregoing arguments, amendments to the claims and deficiencies of the prior art references, the Applicants strongly urge that the anticipation rejection be withdrawn. The Examiner is invited to call the undersigned if there are any remaining issues to be discussed which could expedite the prosecution of the present application.

Respectfully submitted,

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